



Docket No.: 1872.1005 (formerly 23.1093)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of:

Hiroyuki SHIBATA et al.

Serial No. 09/760,883

Group Art Unit: 2677

Confirmation No. 4981

Filed: January 17, 2001

Examiner: Vincent E. Kovalick

For: DISPLAY APPARATUS WITH REDUCED NOISE EMISSION AND DRIVING METHOD
FOR THE DISPLAY APPARATUS

COMMUNICATION TO EXAMINER

REQUESTING CORRECTION OF THE RECORD; AND

**RESPONSE TO CONTENTION OF ADVISORY ACTION OF MAY 16, 2006 AS TO CERTAIN
AMENDMENTS OF THE RESPONSE FILED MARCH 21, 2006 INTRODUCING NEW MATTER**

Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

Sir:

The Action mailed October 21, 2005 was expressly made non-final whereas the Action mailed May 16, 2006 incorrectly treats same as having been a Final Rejection. Correction is respectfully requested.

The Office Action mailed October 21, 2005, in the Office Action Summary, Item 2(b) specifies that the Action is non-final. Furthermore, at page 2, the Action states that in light of a conversation with applicant's counsel at an Attorney Interview on May 17, 2005:

...[T]he USPTO Final Office Action dated January 12, 2005 is herewith withdrawn and a new Non-Final Office Action is herewith submitted.

Applicant's counsel spoke with Examiner Kovalick on the afternoon of June 2, 2006 and brought the above facts to the Examiner's attention and requested that the Advisory Action mailed May 16, 2006 be withdrawn and that a proper Action be issued addressing the Response filed March 21, 2006, on the merits. Applicant's counsel moreover acknowledges receiving a voicemail message from Examiner Kovalick on June 6, 2006, stating that the Office Action of May 16, 2006 will be withdrawn and a corrected Action will be issued, specifying that it is responsive to the non-final Office Action of October 21, 2005 - - and that Examiner Kovalick will

implement corrective action to that effect. The Examiner's voicemail message is greatly appreciated.

RESPONSE RE "NEW MATTER" CONTENTION

The aforesaid, alleged "new matter" is specified in the NOTE on the "Continuation Sheet," as follows:

New Claims 53-61 introduce new matter not supported in the specification. The specification does not support a plasma display apparatus wherein a drive signal having a rectangular shape is applied to each electrode of the panel.

The new matter rejection is respectfully traversed.

The Examiner is respectfully referred to page 8, line 29 et seq. of the specification, which refers to the use of a "fixed clock" in prior art plasma display apparatus, such as shown in Figs. 1-3 of the application, having a constant frequency, concentrated at a frequency (f_0) and which is used as a source clock to drive internal circuits of a drive control section to produce drive waveforms which are applied to the display panel 1 (page 8, line 35-page 9, line 12). As discussed at page 9, lines 13 – 22, the harmonics of the fundamental frequency of the source clock (f_0), or clocks derived from that source clock, cause the plasma display apparatus to emit noise which is directly radiated or propagated - - and with increasing screen size of plasma display panels, the noise emissions have become an increasingly serious concern.

The specification further teaches, at page 9, lines 30-35 that "in the case of a sinusoidal wave, only the fundamental frequency is the major issue, but:

...[I]n the case of a rectangular wave, which contains harmonics, noise is observed that shows peaks at frequencies corresponding to the integral multiples of the fundamental frequency.

(See Figs. 1, 7 and 15-17 of the present application, Exhibit A, illustrating such rectangular drive waveforms).

The present invention is directed to overcoming that noise problem (pages 12-13). The principle of the present invention is summarized at page 13, line 30-page 15, line 18; for example, a first embodiment of the invention employs a:

"spread-type clock oscillator 132 whose frequency varies with time...[and]...is supplied to a common logic control circuit 12 to generate the drive waveform for the display panel 1. In this way, when the spread-type clock oscillator 132 is used, the noise that the display

panel 1 emits can be spread out thereby reducing the peak values of the noise.

FURTHER EXAMPLE OF "RECTANGULAR WAVE" DRIVE SIGNALS IN A PLASMA DISPLAY PANEL

A search of the USPTO patent collection database for "plasma display panel" and "rectangular wave" identified 46 patents ("hits") using those terms (see, Exhibit B); USP 6,914,585, randomly selected from those hits (but, coincidentally, assigned to the common Assignee, Fujitsu Ltd.), illustrates in Figs. 22-25 (copies of which are attached as Exhibit C), drive waveforms having a "rectangular wave" applied to the display electrode X. A much earlier U.S. patent, filed March 16, 1998 and issued February 1, 2000 (namely, USP 6,020,687), also selected from those "hits," and assigned to the same Assignee, provides numerous examples of rectangular waveforms, variously for writing, erasing, and sustaining functions and variously of positive and negative pluralities (see Figs. 5-24A and corresponding discussions in the specification); for specific reference to "sustained voltage pulses of rectangular waveform," see column 6, lines 1-2 and for both address and sustain pulse voltages of rectangular waveforms, see column 9, lines 57-62.

It is respectfully submitted that the term "rectangular wave" is one of long standing, which is well established and understood by those skilled in the technology of plasma display panels and operations thereof.

Accordingly, it is respectfully submitted that the Examiner's contention that the present application presents "new matter" in view of the recitations of claims 53-61 is without basis and the rejection of claims 53-61 for allegedly introducing "new matter not supported in the specification" is submitted to be clearly in error and should be withdrawn. Such action is earnestly solicited.

Respectfully submitted,

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Date:

June 9, 2006

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EXHIBIT A



Fig.1

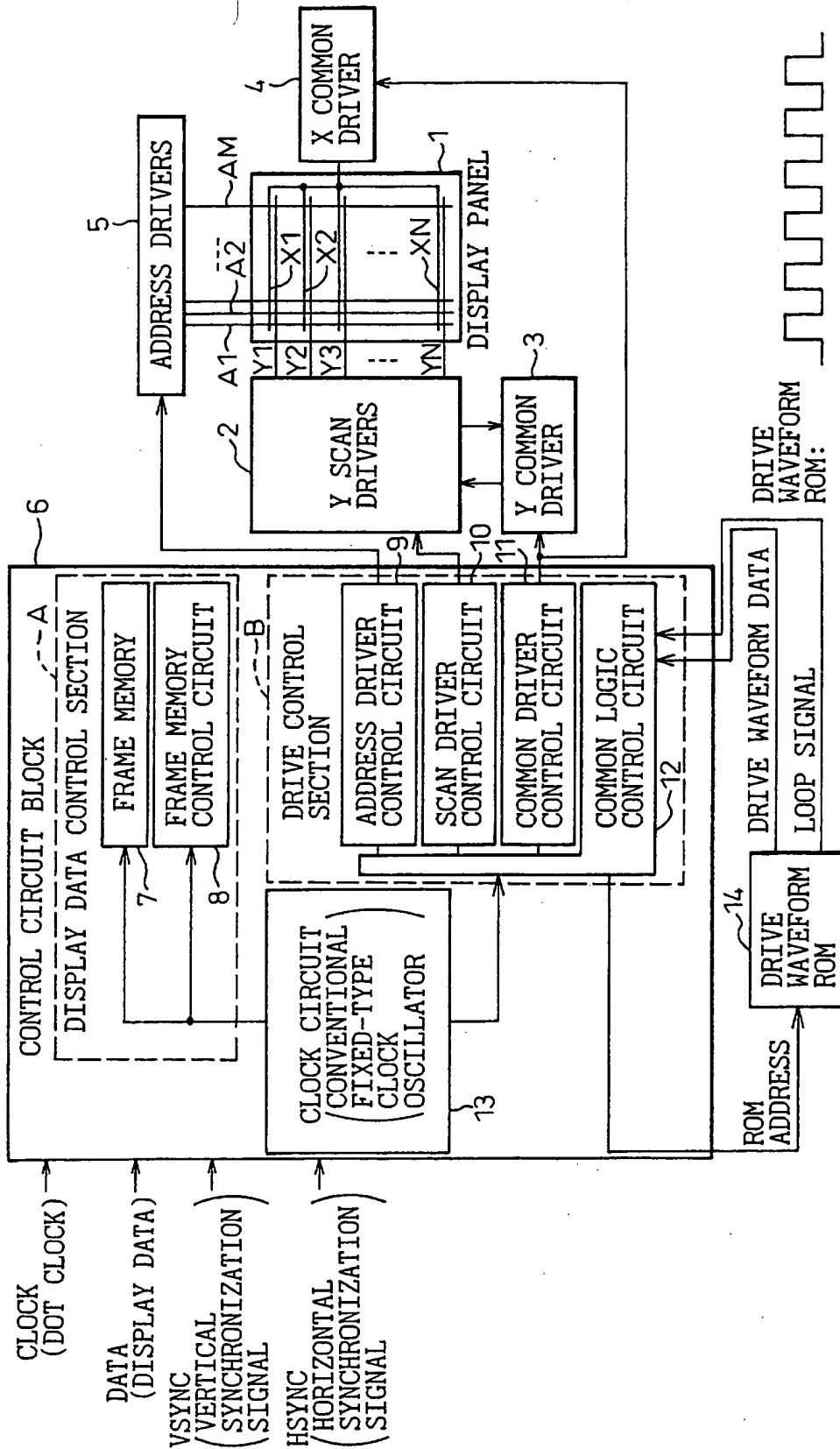


Fig.7

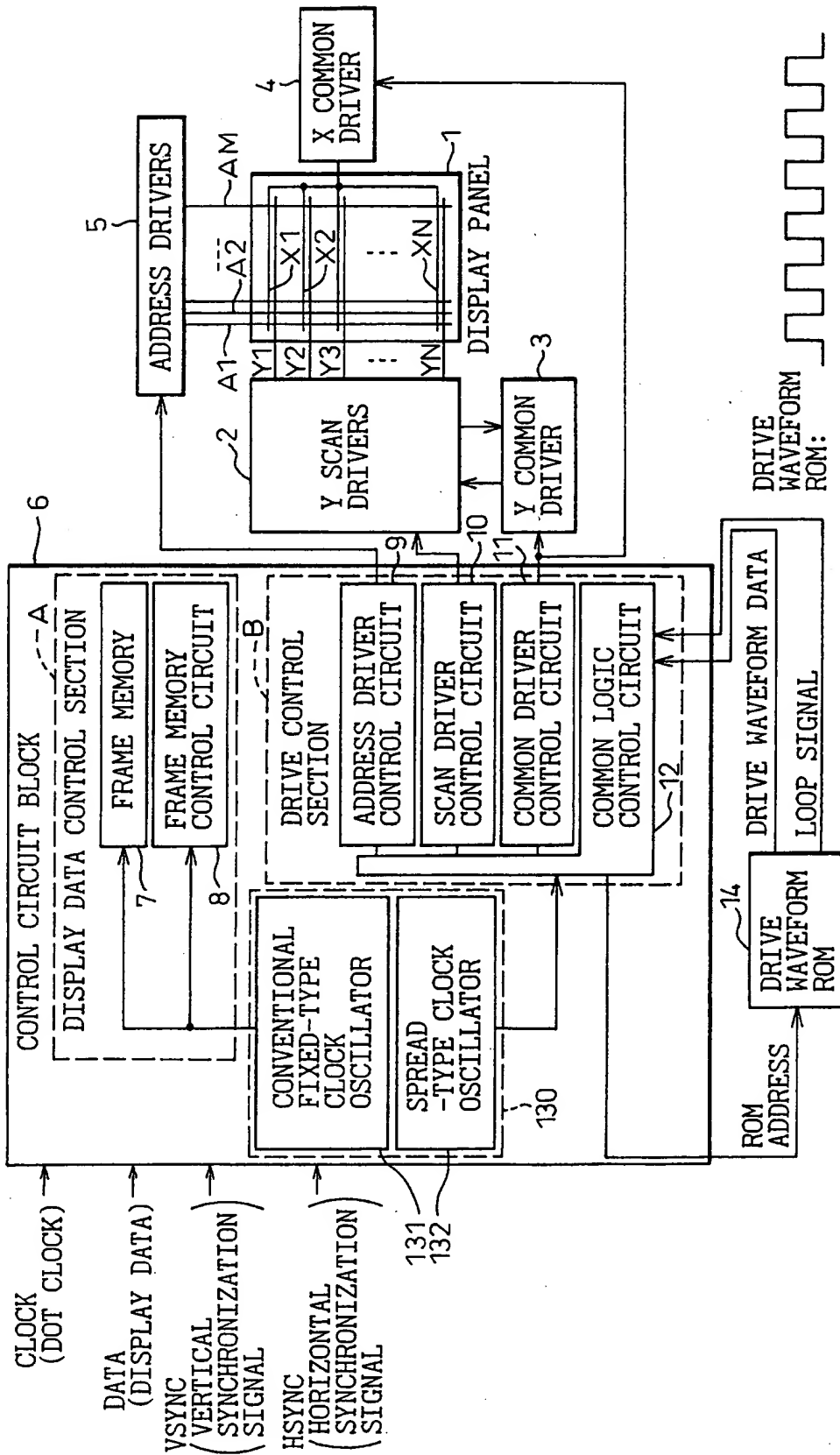


Fig.15

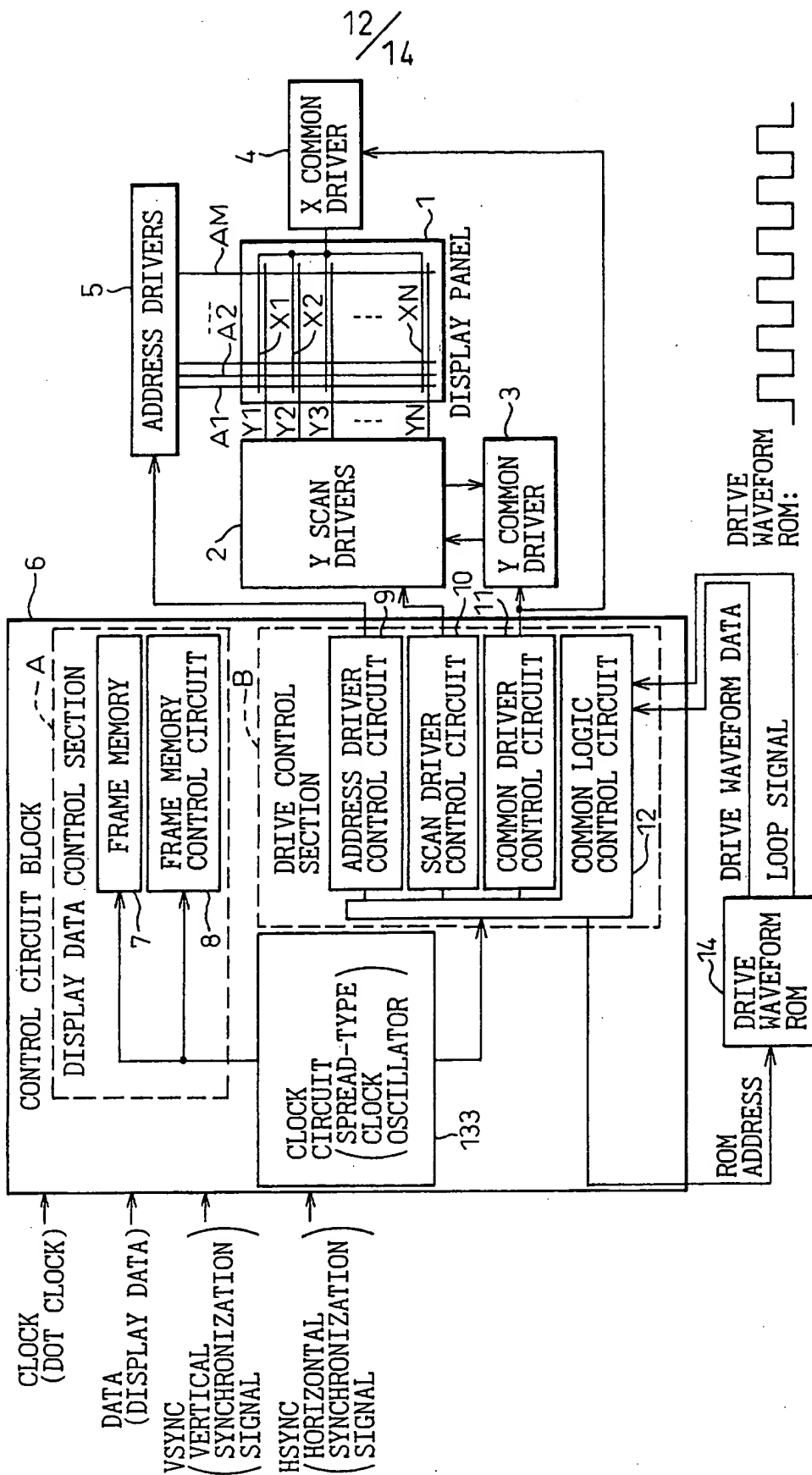
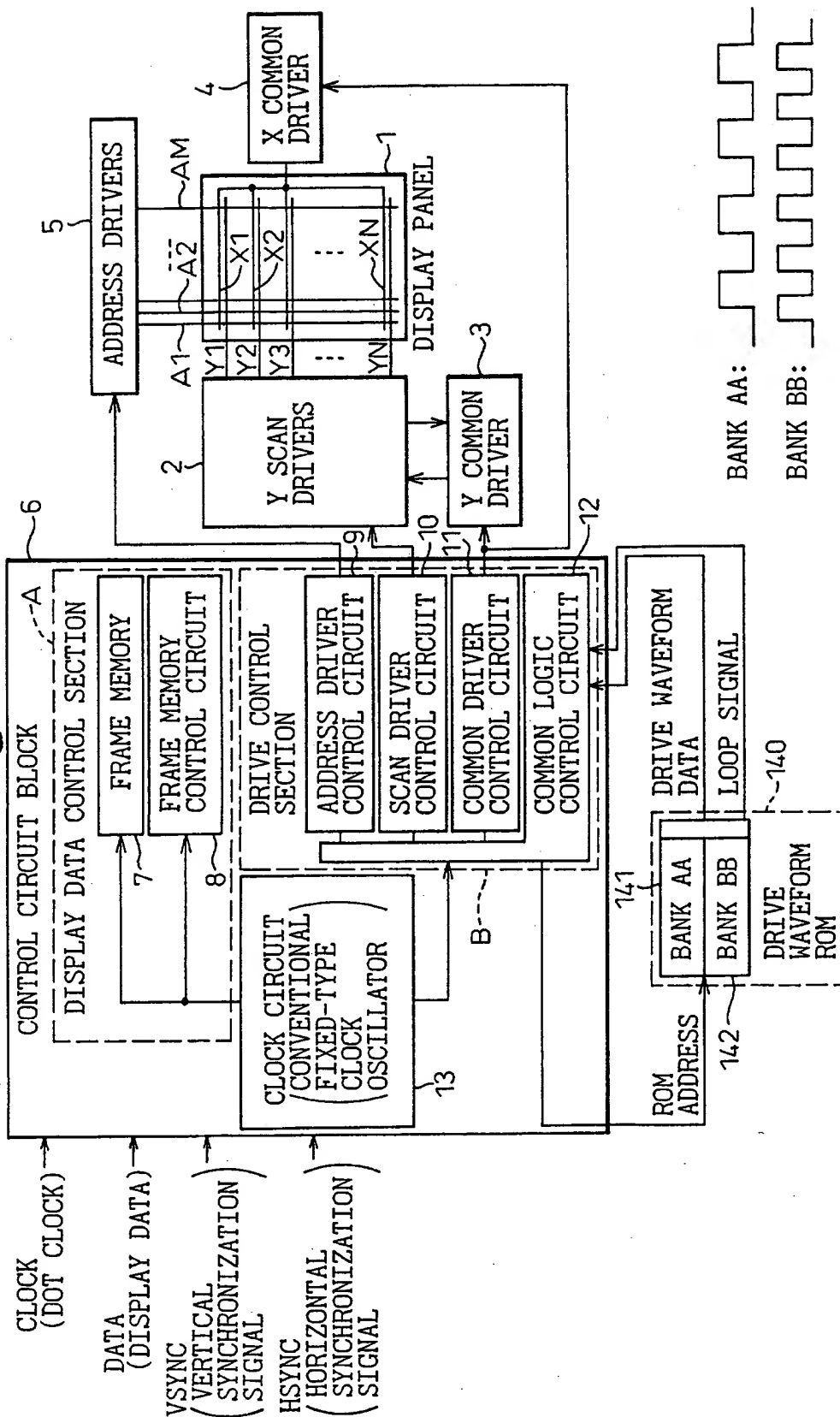


Fig.16



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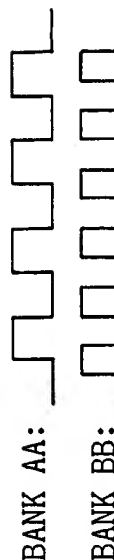
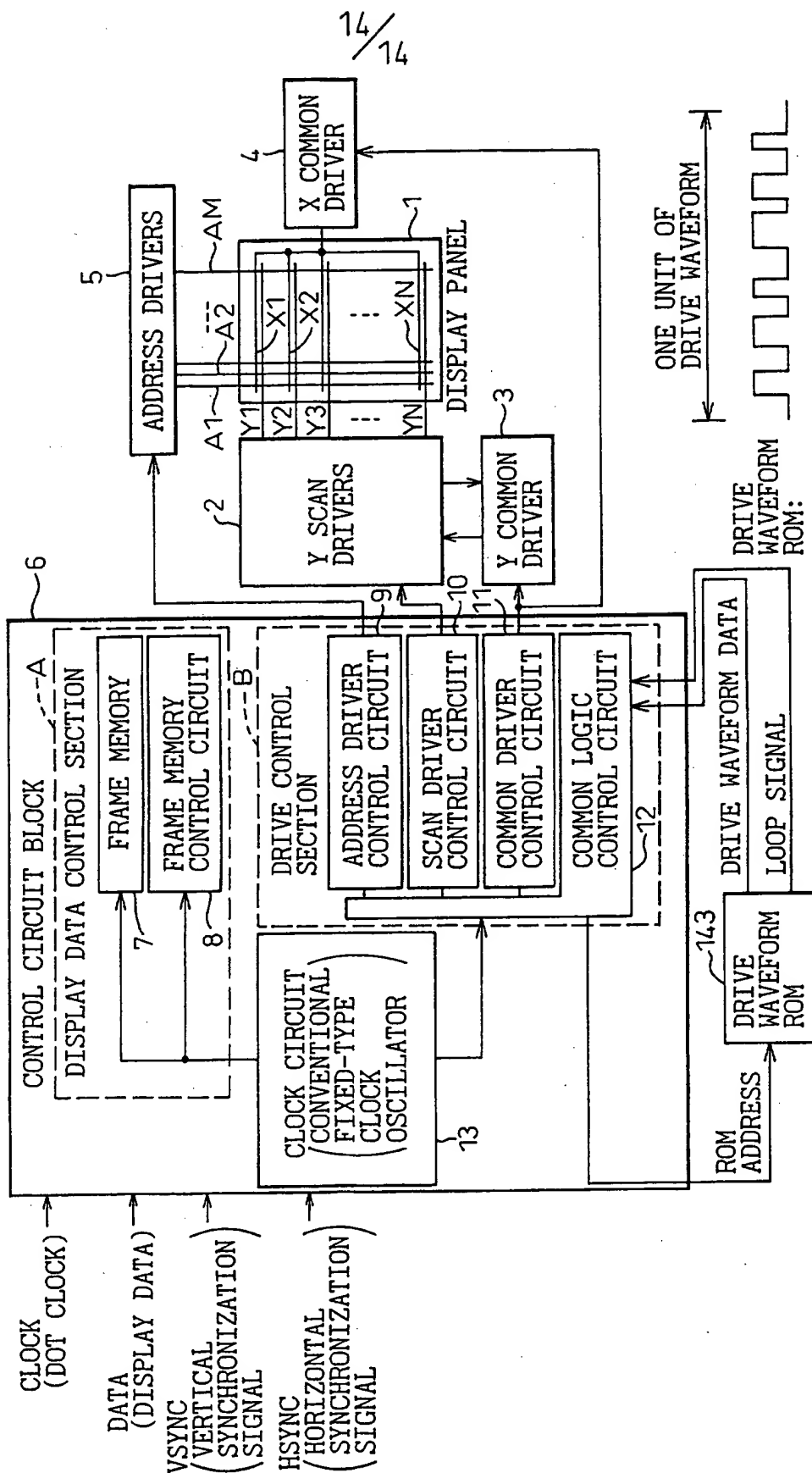


Fig.17



USPTO PATENT FULL-TEXT AND IMAGE DATABASE

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Searching US Patent Collection...

EXHIBIT B

Results of Search in US Patent Collection db for:

("plasma display panel" AND "rectangular wave"): 46 patents.

Hits 1 through 46 out of 46

[Jump To](#)

[Refine Search](#)

PAT. NO.	Title
1 7,054,342	High density optical source bank
2 7,049,756	Capacitive load driving circuit, capacitive load driving method, and apparatus using the same
3 7,009,585	Method for driving plasma display panel
4 7,006,058	Method of driving a plasma display panel
5 6,914,585	Method for driving three-electrode surface discharge AC type plasma display panel
6 6,911,783	Drive method for plasma display panel and drive device for plasma display panel
7 6,902,455	Method of manufacturing member pattern, electron source, and image display device
8 6,900,598	High resolution and high luminance plasma display panel and drive method for the same
9 6,888,316	Method for driving plasma display panel
10 6,876,395	Video signal conversion device and video signal conversion method
11 6,836,262	Method of driving plasma display panel, plasma display device and driving device for plasma display panel
12 6,836,261	Plasma display driving method and apparatus
13 6,829,525	Movement condition computing device, method, and program, and recording medium recording said program, and navigation device
14 6,822,983	Modulation system and methods for optical source bank
15 6,747,614	Driving method of plasma display panel and display devices
16 6,738,033	High resolution and high luminance plasma display panel and drive method for the same
17 6,724,151	Apparatus and method of driving electro luminescence panel
18 6,717,557	Driving apparatus and driving method of an AC type plasma display panel having auxiliary electrodes





























- 19 [6,707,436](#)  [Method for driving plasma display panel](#)
- 20 [6,707,250](#)  [Gas discharge display device, plasma addressed liquid crystal display device, and method for producing the same](#)
- 21 [6,696,794](#)  [Method for driving AC plasma display](#)
- 22 [6,680,718](#)  [Method for driving a gas-discharge panel](#)
- 23 [6,674,561](#)  [Optical state modulation method and system, and optical state modulation apparatus](#)
- 24 [6,653,993](#)  [Plasma display panel driving method and plasma display panel apparatus capable of displaying high-quality images with high luminous efficiency](#)
- 25 [6,653,795](#)  [Method and apparatus for driving plasma display panel using selective writing and selective erasure](#)
- 26 [6,650,053](#)  [Surface-discharge type display device with reduced power consumption and method of making display device](#)
- 27 [6,628,355](#)  [Liquid crystal display panel including a light shielding film to control incident light](#)
- 28 [6,617,802](#)  [Apparatus for recovering energy using magnetic coupled inductor in plasma display panel driving system and method for designing the same](#)
- 29 [6,605,897](#)  [Plasma display panel and its driving method](#)
- 30 [6,545,653](#)  [Method and device for displaying image signals and viewfinder](#)
- 31 [6,483,250](#)  [Method of driving plasma display panel, plasma display device and driving device for plasma display panel](#)
- 32 [6,476,561](#)  [Gas discharge display device with superior picture quality](#)
- 33 [6,438,298](#)  [Optical device using photonics](#)
- 34 [6,380,768](#)  [Display device capable of collecting substantially all power charged to capacitive load in display panel](#)
- 35 [6,342,873](#)  [Surface discharge type plasma display device suppressing the occurrence of electromagnetic field radiation](#)
- 36 [6,330,054](#)  [Image-forming method and image-forming apparatus on recording medium including microcapsules](#)
- 37 [6,307,681](#)  [Electro-optical device, electronic equipment, and method of driving an electro-optical device](#)
- 38 [6,219,113](#)  [Method and apparatus for driving an active matrix display panel](#)
- 39 [6,020,687](#)  [Method for driving a plasma display panel](#)
- 40 [5,926,174](#)  [Display apparatus capable of image display for video signals of plural kinds](#)
- 41 [5,694,030](#)  [Magnetic element for power supply and DC-to-DC converter](#)
- 42 [5,583,424](#)  [Magnetic element for power supply and dc-to-dc converter](#)
- 43 [4,752,655](#)  [Coordinate input device](#)
- 44 [4,550,274](#)  [MOSFET Sustainer circuit for an AC plasma display panel](#)
- 45 [4,496,879](#)  [System for driving AC plasma display panel](#)
- 46 [4,147,960](#)  [Plasma display panel including shift channels and method of operating same](#)



FIG. 21

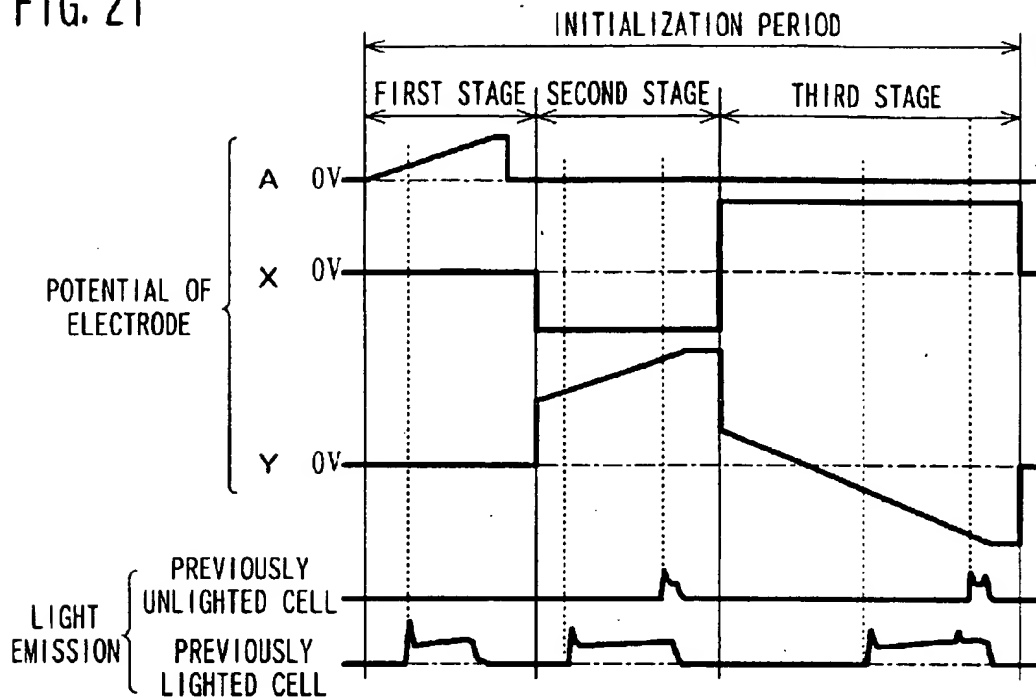


FIG. 22

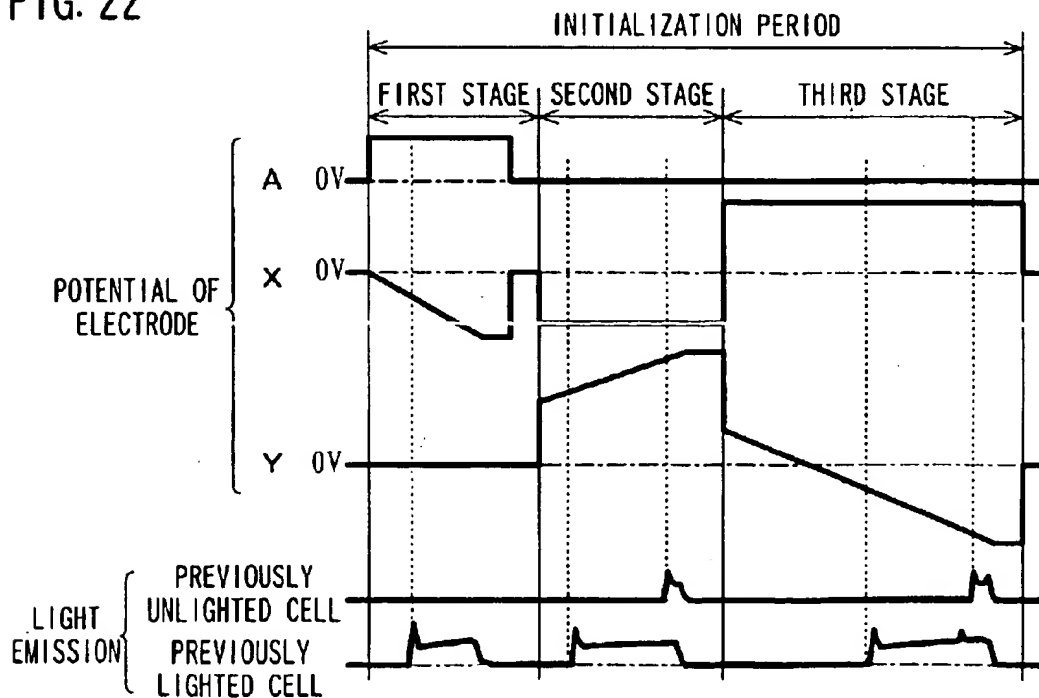




FIG. 23

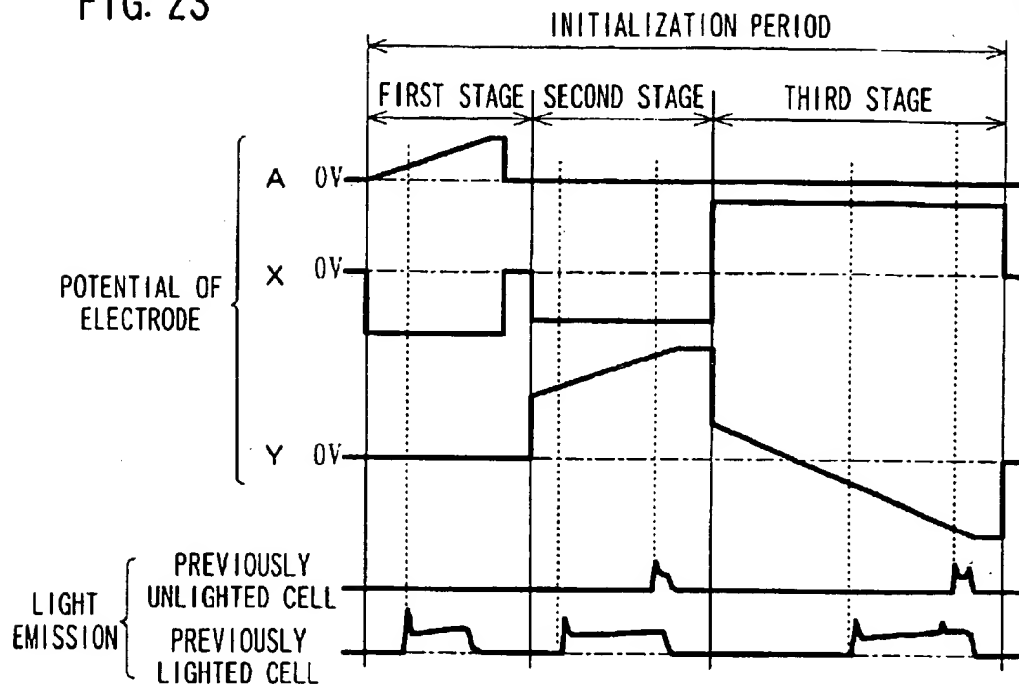
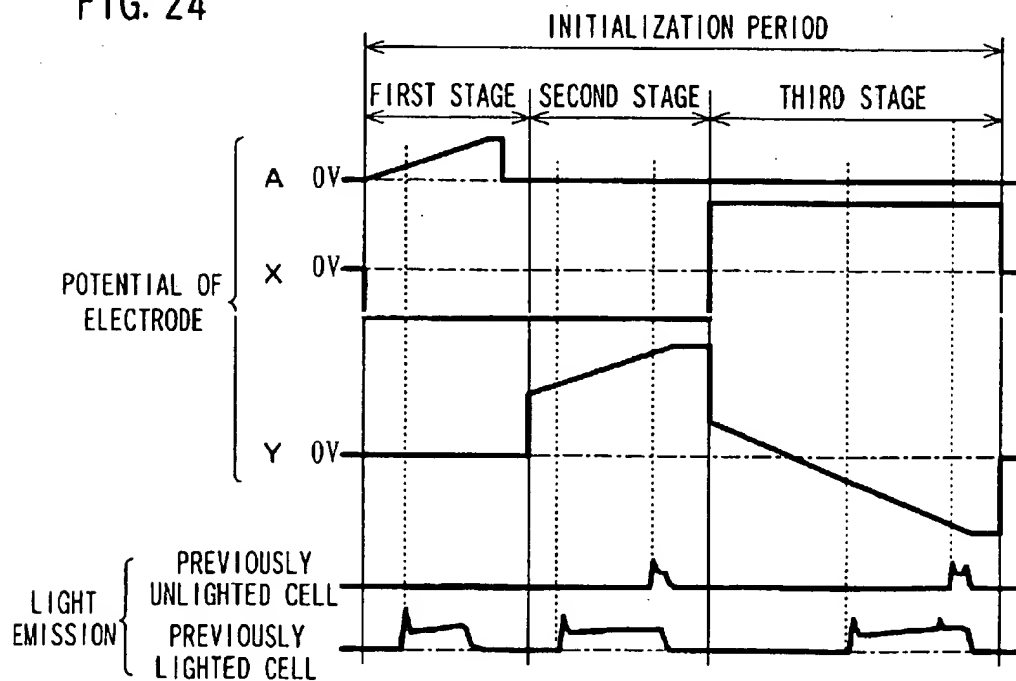


FIG. 24



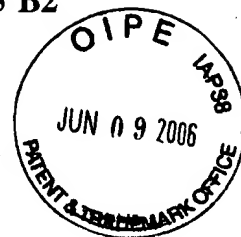


FIG. 25

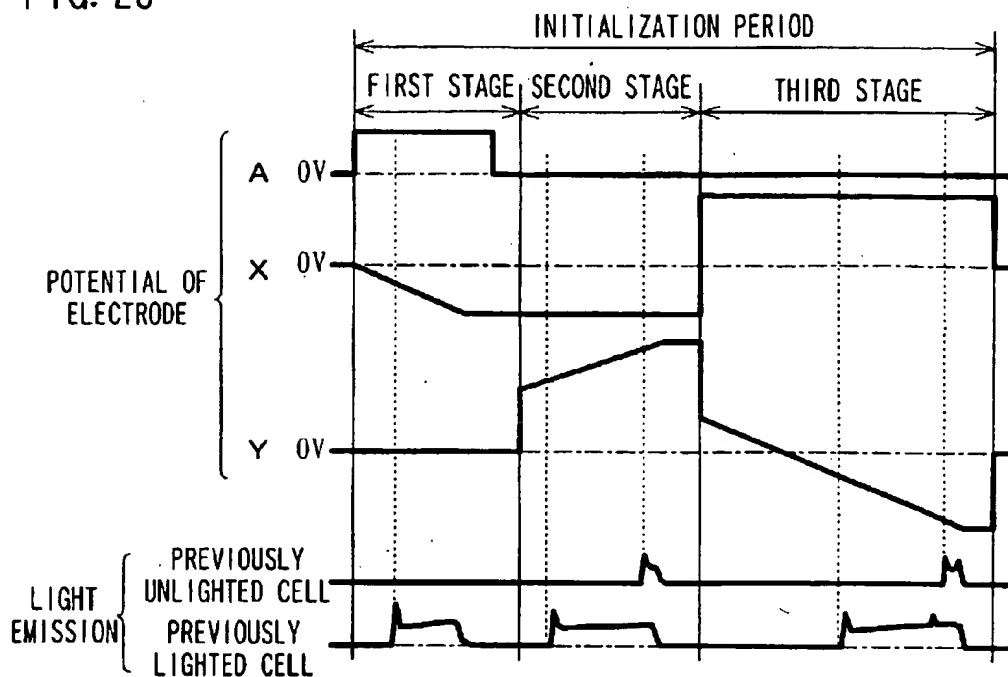


FIG. 26

